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I. Work Assignment Title: Mauna Loa Mercury Data Processing and Quality Assurance

Support

Contractor Name: Eastern Research Group

Contract #: EP-D-11-006 Work Assignment #: 3-11

II. Work Assignment Manager (WAM):

WAM Name: Matthew Landis

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Human Exposure & Atmospheric Sciences Division

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Alt. WAM Name: Gary Norris

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National Exposure Research Laboratory

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Research Triangle Park, NC 27711

Phone: 919-541-1519

Email: norris.gary@epa.gov

III. Level of Effort:

Level of Effort: 132 LOE hours Completion Date: 6/30/2013

IV. Background

NOAA's Global Monitoring Division (GMD) Mauna Loa Observatory (MLO) is a global atmospheric baseline station located on the Island of Hawaii on the northern flank of Mauna Loa volcano. From 2001 though 2010 EPA NERL funded an IAG with NOAA GMD to establish and run a baseline mercury measurement station and investigate the long range transport of mercury from South East Asia across the Pacific. NERL scientists installed a mercury speciation system and supporting criteria gas monitoring instrumentation, and trained MLO staff on its operation and maintenance. The mercury speciation system collected semi-continuous (2 hour) integrated measurements of ambient elemental gaseous mercury (Hg⁰), divalent or reactive gaseous mercury (RGM), and particulate phase mercury (Hg(p)).

The data and results of this long term monitoring study were promised to the United Nations Environmental Program as part of their global mercury monitoring strategy analysis and to members of the U.S. delegation taking part in the International Minamata Convention on Mercury Diplomatic Conference scheduled for October 7-11 in Japan.

The purpose of this work assignment (WA) is to provide support in debugging an existing EPA SAS code developed by a past ORISE post doc to (i) read in raw monitoring instrument data files, (ii) merge files into correct time integrated format, and (iii) flag data based on EPA provided quality assurance criteria.

V. Description and Tasks:

Task #1: SAS Code Update and Verification

The Contractor shall meet with EPA staff familiar with the study and resulting data streams. EPA will provide the contractor with all existing SAS code and Mauna Loa study data files. EPA staff will discuss the existing data files, SAS code, and the known program bugs. The contractor shall then prepare a work plan describing the technical approach for correcting the SAS code described in this work assignment. In addition the Contractor shall provide a cost and labor estimate for the total work assignment and the cost and labor required to complete the WA task. The Contractor shall provide monthly reports to the EPA WA COR as required by the contract deliverables and must contain a summary of technical progress and WA resource use (labor and cost) information as required by the contract.

Task 1 Deliverables:

- 1. Work Plan
- 2. Monthly Progress Reports
- 3. Updated SAS code

VI. QA Requirements:

Standard "good laboratory practices" for maintaining notebooks shall be employed. All notebooks shall be provided to EPA in electronic format. All SAS code edits shall be documented directly in the code and in the final report.

VII. Deliverables:

Task	Activity	Date	Comments
1	Updated SAS code and corrected data files. Provide Monthly Progress Reports	30 days after effective date of WA By the 15 th of the following month	NA

VIII. Reporting Requirements:

The Contractor shall provide monthly progress reports in accordance with the terms of the contract. The Contractor shall submit work products in electronic as well as hard copy form. In addition, the Contractor shall deliver to the WAM the final SAS code file (*.sas), SAS data files (*.sas7bdat), and comma delimited version on the final corrected data set *.csv).